11-09-05

Atty. Dkt. No. 310473-1600

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Guy Michael MILLER et al.

Title: METHODS FOR THE PREVENTION AND TREATMENT OF NON-CARDIOVASCULAR TISSUE ISCHEMIA USING GAMMA-TOCOPHEROL AND METABOLITES THEREOF

Appl. No.: 10/017,717

Filing Date: 12/14/2001

Examiner: P. Spivack

Art Unit: 1614

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Respectfully submitted,

Date NOV. 7, 2005 By Lorna Tanner

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: Guy Michael MILLER et al.

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APPEAL BRIEF

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Sir:

Under the provisions of 37 C.F.R. §41.37, this Appeal Brief is being filed together with a check in the amount of $250.00 covering the appeal fee under 37 C.F.R. §41.20(b)(2) for a small entity. If this fee is deemed to be insufficient, authorization is hereby given to charge any deficiency (or credit any balance) to the undersigned deposit account 50-0872. This Appeal Brief is filed within two months from the date of filing the Notice of Appeal under 37 C.F.R. §41.31 or on or before the current due date of November 7, 2005 (November 6, 2005 being a Sunday).

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REAL PARTY IN INTEREST

The real party in interest in this application is Galileo Pharmaceuticals, Inc., assignee of the entire right, title, and interest to this application by virtue of an assignment from the inventors to Galileo Laboratories, Inc. which assignment is recorded at Reel No. 012711 and Frame No. 0713. Subsequently, Galileo Laboratories, Inc. changed its name to Galileo Pharmaceuticals, Inc. which name change is recorded at Reel No. 013805 and Frame No. 0479.

RELATED APPEALS AND INTERFERENCES

Appellants filed a Notice of Appeal for US patent application serial no. 10/020,450 on September 8, 2005. This appeal may be related to, directly affect or be directly affected by or have a bearing on the decision on appeal taken in this application. The Appeal Brief for the related application will be filed on November 8, 2005.

STATUS OF CLAIMS

Claims 1-40, 43, and 65-97 are canceled.

Claims 41, 42, 44-64, and 98-106 have been twice rejected.[1]

This rejection of Claims 41, 42, 44-64, and 98-106 is appealed. A copy of the claims on appeal is provided in Claims Appendix.

STATUS OF AMENDMENTS

As understood by the Appellants, all of the requested amendments have been entered. No amendments have been submitted subsequent to the rejection of claims in a non-final office action dated May 5, 2005.

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[1] The second rejection of Claims 41, 42, 44-64 and 98-106 is a non-final rejection; however, pursuant to 37 C.F.R. §41.31, claims rejected twice can be appealed.

SUMMARY OF CLAIMED SUBJECT MATTER

The appealed claims are directed to a method for reducing cell or tissue death associated with a non-cardiovascular tissue ischemic condition in a mammalian subject. These claims comprise administering to the subject an effective amount of a gamma-tocopherol enriched tocopherol composition comprising at least 50% gamma-tocopherol. By so administering, a reduction in tissue damage related to said non-cardiovascular tissue ischemic condition is achieved. See, specification, *e.g.*, page 8, lines 19-23 and Claim 41. Exemplary tissue ischemic conditions are described in detail in the specification. See, specification, e. g. page 19, line 1-page 20, line 2. Some of these methods employ compositions comprising at least 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, or 98% of gamma-tocopherol. See, specification, *e.g.*, page 11, lines 13-16, page 14, lines 3-9, and Claims 44-52. Some methods employ nutritional compositions while others employ pharmaceutical compositions. See, specification, *e.g.*, page 12, lines 12-14 and Claims 58-59. Some methods employ compositions that are administered orally and/or parenterally. See, specification, *e.g.*, page 12, lines 15, 16 and Claims 60-61. Some methods employ compositions comprising gamma-tocopherol in a range of about 1-50, or 10-100, or 1-1000 mg per kg body weight of the mammalian subject. See, specification, *e.g.*, page 10, line 27 – page 11, line 9 and Claims 62-64. Some methods employ gamma-tocopherol enriched compositions comprising at least 50% gamma-tocopherol and less than 20% alpha-tocopherol, at least 60% gamma-tocopherol and less than 20% alpha-tocopherol, at least 65% gamma-tocopherol and less than 20% alpha-tocopherol, at least 70% gamma-tocopherol and less than 20% alpha-tocopherol, at least 75% gamma-tocopherol and less than 20% alpha-tocopherol, or at least 80% gamma-tocopherol and less than 20% alpha-tocopherol. See, specification, *e.g.*, page 14, lines 3-13 and Claims 99-104.

The claims are also directed to a method for reducing cell or tissue death associated with a non-cardiovascular tissue ischemic condition in a mammalian subject. These claims comprise administering to the subject an effective amount of a naturally occurring metabolite of gamma-tocopherol. By so administering, a reduction in tissue damage related to said non-cardiovascular tissue ischemic condition is achieved. See, specification, *e.g.*, page 8, lines 24 – 28 and Claim

42. Some of these methods employ compositions comprising at least 80%, 85%, 90%, 95%, or 98% of naturally occurring metabolite of gamma-tocopherol. See, specification, *e.g.*, page 11, lines 21-23, page 17, lines 13-23 and Claims 53-57.

The claims are also directed to a method for reducing cell or tissue death associated with a non-cardiovascular tissue ischemic condition in a mammalian subject. These methods comprise administering to the subject an effective amount of a naturally occurring metabolite of gamma-tocopherol, 2,7,8-trimethyl-2-(β-carboxy-ethyl)-6-hydroxy chroman (gamma-CEHC). By so administering, a reduction in tissue damage related to said non-cardiovascular tissue ischemic condition is achieved. See, specification, *e.g.*, page 11, line 24, page 22, lines, 7-13 and Claim 98.

The claims are also directed to a method for reducing cell or tissue death associated with a non-cardiovascular tissue ischemic condition in a mammalian subject. These methods comprise administering to the subject an effective amount of a gamma-tocopherol enriched tocopherol composition comprising at least 50% gamma-tocopherol and less than 20% alpha-tocopherol. By so administering, a reduction in tissue damage related to said non-cardiovascular tissue ischemic condition is achieved. See, specification, *e.g.*, page 14, lines 3-13 and Claim 105. The method also employs composition comprising at least 60% gamma-tocopherol and less than 10% alpha-tocopherol; specification at, *e.g.*, page 14, lines 3-13 and Claim 106.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 41, 42, 44-64, and 98-106 stand rejected under U.S.C. §102(e) as allegedly being anticipated by Wechter, W. J., U.S. 2004/0058986.

2. Claims 41, 42, 44-64, and 98-106 stand rejected under U.S.C. §103(a) as allegedly being unpatentable over Wechter, W. J., U.S. 2004/0029954.

ARGUMENT

1. Rejection under 35 U.S.C. §102(e)

Claims 41, 42, 44-64, 98-106 stand rejected under 35 U.S.C. §102(e) over Wechter US 2004/0058986 (the '986 Wechter publication). Appellants hereby reiterate their arguments over this rejection that were originally presented together with the Amendment and Reply under 37 C.F.R. §1.111 filed on August 6, 2004 and again presented together with the Amendment and Reply under 37 C.F.R. §1.114 filed on January 27, 2005.

a. Standard for Prior Art Qualification

In order to qualify as a prior art reference under 35 U.S.C. §102(e), the relied upon sections of the reference patent or patent publication must have an effective filing date which is earlier than the effective filing date of the application under examination. MPEP 706.02(a). To sustain a rejection under 35 U.S.C. §102(e), the invention must have been described in application for patent by another filed in the U.S. (or in an international patent application designating the U.S. under 35 U.S.C. §351(a)) before the invention by the Appellants. Appellants contend that the effective filing date of the instant application is before the effective filing date of the '986 Wechter application and as such, the '986 Wechter publication does not qualify as a prior art reference.

b. Summary of Wechter 2004/0058986 as to its Effective Filing Date

The '986 Wechter publication was filed on September 12, 2003 and claims priority via a series of continuation applications to U.S. Serial No.09/215,608 filed on December 17, 1998 (collectively, the Wechter priority applications).

The specification of the '986 Wechter publication (and the Wechter priority applications) describes the use of gamma-tocopherol, to treat a number of conditions: "high blood pressure, thromboembolic disease, cardiovascular disease, cancer, natriuretic disease, the formation of neuropathological lesions and a reduced immune system response..." (Paragraph [0008]); "producing a natriuretic effect" (Paragraph [0009]); "cardiovascular diseases such as ischemia,

angina, edematous conditions, atherosclerosis, LDL-oxidation, adhesion of monocytes to endothelial cells, foam cell formation, fatty-streak development, platelet adherence, platelet aggregation, smooth muscle cell proliferation, and reperfusion injury....treat and prevent cancers such as lung cancer, prostate cancer, breast cancer, and colon cancer" (Paragraph [0011]); "treatment and prevention of natriuretic diseases, such as hypertension, high blood pressure, ischemia, angina pectoris, congestive heart failure, cirrhosis of the liver, nephritic syndrome, ineffective renal perfusion or ineffective glomerular filtration....neurological diseases including hyporeflexia, opthalmolplegia, and axonal dystrophy... improve a subject's immune system response, reduce the production of free radicals..." (Paragraph [0012]).

While, as exemplified above, the specification of the '986 Wechter publication describes the use of gamma-tocopherol for treating a whole plethora of diseases, nowhere in this specification ***nor in any of the Wechter priority applications*** is the term "non-cardiovascular tissue ischemia" used by Wechter. Furthermore, none of the diseases listed by the '986 Wechter publication fall into the category of diseases that the Appellants have defined as "non-cardiovascular tissue ischemia," or, for that matter, that persons skilled in the art would categorize in such a manner.

The initial introduction of the phrase "non-cardiovascular tissue ischemia" was introduced by Wechter into the ***claims*** of the '986 Wechter publication at the time of filing. Since this phrase is unsupported in either the '986 publication or his priority applications, the introduction of this phrase in the claims of '986 publication either constitutes new matter or converts that application to a continuation-in-part application relative to Wechter's priority applications.

c. The claims of the '986 Wechter publication are not supported by the disclosure of the specification

Although the '986 Wechter publication claims priority to earlier filed continuation applications, Appellants maintain for the reasons noted at length above that the specification on which the '986 Wechter publication is based (which is identical to his priority cases) does not support the claims filed therein. Accordingly, the claims and the subject matter thereof cannot derive benefit of the earlier filing date(s). Appellants urge that the Honorable Board of Patent

Appeals and Interferences accord an effective filing date for these claims in the '986 publication of September 12, 2003.

The effective filing date of the claims in the '986 Wechter publication should be September 12, 2003. This is ***later than*** both the filing date and the priority dates of the appealed claims in the present application. Accordingly, the subject matter of the claims of the '986 Wechter publication do not anticipate the appealed claims.

d. Rejection under 35 U.S.C. §102(e) is improper

In view of the above, the rejection of Claims 41, 42, 44-64, and 98-106 under 35 U.S.C. §102(e) over the '986 Wechter publication is improper. Withdrawal of this rejection by the Honorable Board of Patent Appeals and Interferences is requested.

2. Rejection under 35 U.S.C. §103(a)

Claims 41, 42, 44-64, 98-106 stand rejected under 35 U.S.C. §103(a) over Wechter, US 2004/0029954 (the '954 Wechter publication). Appellants hereby reiterate their arguments over this rejection that were originally presented together with the Amendment and Reply under 37 C.F.R. §1.111 filed on August 6, 2004 and again presented together with the Amendment and Reply under 37 C.F.R. §1.114 filed on January 27, 2005.

a. Summary of the '954 Wechter publication

The '954 Wechter publication was filed on February 21, 2003 and claims priority via a series of continuation applications to U.S. Serial No.09/215,608 filed on December 17, 1998 (collectively, the Wechter priority applications). Appellants submit that, except for the claims, the specification of the '954 Wechter publication is essentially identical to that of the '986 Wechter publication described above. The '954 Wechter publication provides a "laundry list" of maladies. However, neither the '954 Wechter publication nor any of the Wechter priority applications describe or support the subject matter of the claims set forth in the application as filed on

February 21, 2003 (and published as the '954 Wechter publication), which form the basis for the Examiner's rejection under this section.

It is the Examiner's position that the claims of the '954 Wechter publication "directed to methods of treating or preventing any ischemic condition...includ[ing] those associated with the liver, the kidney, diabetes, thromboembolytic disease, the brain, the nervous system and the eye" using gamma-tocopherol or a metabolite (LLU-α) of gamma-tocopherol render obvious the Appellants' claimed invention.

b. The '954 Wechter publication is not an effective reference against the instant application for the subject matter cited by the Examiner

Although the '954 Wechter publication claims priority to earlier filed continuation applications, Appellants maintain that the specification on which the '954 Wechter publication is based (which is identical to his priority cases) does not support the claims filed therein. Accordingly, the claims and the subject matter thereof cannot derive benefit of the earlier filing date(s). Appellants urge that the Honorable Board of Patent Appeals and Interferences accord an effective filing date for these claims in the '954 publication of February 21, 2003.

As stated above, the subject matter of the '954 Wechter publication that the Examiner cites against the Appellants' claimed invention is not supported by the specification and therefore does not derive the benefit of the earlier filing date(s). Specifically, the filing date of '954 Wechter publication is ***later than*** both the filing date and the priority dates of the Appellants' instant application, the cited subject matter of '954 Wechter publication cannot render obvious the Appellants' claimed invention.

c. The '954 Wechter publication does not render obvious the claimed subject matter of the instant application

The subject matter of the specification of '954 Wechter publication is described in the previous section. To reiterate, '954 Wechter publication describes the use gamma-tocopherol, to treat a number conditions: "high blood pressure, thromboembolic disease, cardiovascular disease,

cancer, natriuretic disease, the formation of neuropathological lesions and a reduced immune system response..." (Paragraph [0008]); "producing a natriuretic effect" (Paragraph [0009]); "cardiovascular diseases such as ischemia, angina, edematous conditions, atherosclerosis, LDL-oxidation, adhesion of monocytes to endothelial cells, foam cell formation, fatty-streak development, platelet adherence, platelet aggregation, smooth muscle cell proliferation, and reperfusion injury....treat and prevent cancers such as lung cancer, prostate cancer, breast cancer, and colon cancer" (Paragraph [0011]); "treatment and prevention of natriuretic diseases, such as hypertension, high blood pressure, ischemia, angina pectoris, congestive heart failure, cirrhosis of the liver, nephritic syndrome, ineffective renal perfusion or ineffective glomerular filtration....neurological diseases including hyporeflexia, opthalmolplegia, and axonal dystrophy... improve a subject's immune system response, reduce the production of free radicals..." (Paragraph [0012]).

The '954 Wechter publication might suggest the use of gamma-tocopherol for a whole plethora of indications, these indications would not fall into the category of non-cardiovascular tissue ischemia. Further, there is nothing in the reference that would suggest that its teachings of the treatment of the various enumerated disease states might also be applicable to treating non-cardiovascular tissue ischemia.

Since the reference neither shows nor suggests methods of treating non-cardiovascular ischemia, along the lines of the Appellants' claimed invention, the '954 Wechter publication does not render the claimed invention obvious.

In view of the above, the rejection of Claims 41, 42, 44-64, and 98-106 under 35 U.S.C. §103 over the '954 Wechter publication is improper. Withdrawal of this rejection by the Honorable Board of Patent Appeals and Interferences is requested.

CONCLUSION

The rejection of claims imposed by the examiner should be reversed and the application should be returned to the examiner so that the examiner may issue a Notice of Allowance.

Appellants note that the claims of the application also remain rejected under the judicially created doctrine of obviousness-type double patenting over co-pending application USSN: 10/020,450. Upon allowance of the instant application, Appellants will submit a terminal disclaimer to obviate the rejection.

Respectfully submitted,

Date NOV. 7, 2005 By _____

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CLAIMS APPENDIX

Claims on Appeal

Claim 41 (previously presented) A method for reducing cell or tissue death associated with a non-cardiovascular tissue ischemic condition in a mammalian subject, comprising administering to the subject an effective amount of a gamma-tocopherol enriched tocopherol composition comprising at least 50% gamma-tocopherol, and by said administering, reducing tissue damage related to said non-cardiovascular tissue ischemic condition.

Claim 42 (previously presented) A method for reducing cell or tissue death associated with a non-cardiovascular tissue ischemic condition in a mammalian subject, comprising administering to the subject an effective amount of a naturally occurring metabolite of gamma-tocopherol, and by said administering, reducing tissue damage related to said non-cardiovascular tissue ischemic condition.

Claim 43 (canceled)

Claim 44 (original) The method of claim 41 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 60% gamma-tocopherol.

Claim 45 (original) The method of claim 41 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 65% gamma-tocopherol.

Claim 46 (original) The method of claim 41 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 70% gamma-tocopherol.

Claim 47 (original) The method of claim 41 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 75% gamma-tocopherol.

Claim 48 (original) The method of claim 41 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 80% gamma-tocopherol.

Claim 49 (original) The method of claim 41 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 85% gamma-tocopherol.

Claim 50 (original) The method of claim 41 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 90% gamma-tocopherol.

Claim 51 (original) The method of claim 41 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 95% gamma-tocopherol.

Claim 52 (original) The method of claim 41 wherein said gamma-tocopherol enriched tocopherol composition comprises at least 98% gamma-tocopherol.

Claim 53 (previously presented) The method of claim 42 wherein said naturally occurring metabolite of gamma-tocopherol comprises at least 80% gamma-tocopherol metabolite.

Claim 54 (previously presented) The method of claim 42 wherein said naturally occurring metabolite of gamma-tocopherol comprises at least 85% gamma-tocopherol metabolite.

Claim 55 (previously presented) The method of claim 42 wherein said naturally occurring metabolite of gamma-tocopherol comprises at least 90% gamma-tocopherol metabolite.

Claim 56 (previously presented) The method of claim 42 wherein said naturally occurring metabolite of gamma-tocopherol comprises at least 95% gamma-tocopherol metabolite.

Claim 57 (previously presented) The method of claim 42 wherein said naturally occurring metabolite of gamma-tocopherol comprises at least 98% gamma-tocopherol metabolite.

Claim 58 (original) The method of claim 41 wherein said composition is a nutritional composition.

Claim 59 (original) The method of claim 41 wherein said composition is a pharmaceutical composition.

Claim 60 (original) The method of claim 41 wherein said composition is administered orally.

Claim 61 (original) The method of claim 41 wherein said composition is administered parenterally.

Claim 62 (original) The method of claim 41 wherein said composition comprises gamma-tocopherol in a range of about 1 to about 1000 mg per kg body weight of said mammalian subject.

Claim 63 (original) The method of claim 41 wherein said composition comprises gamma-tocopherol in a range of about 1 to about 50 mg per kg body weight of said mammalian subject.

Claim 64 (original) The method of claim 41 wherein said composition comprises gamma-tocopherol in a range of about 10 to about 100 mg per kg body weight of said mammalian subject.

Claims 65-97 (canceled)

Claim 98 (previously presented) A method for reducing cell or tissue death associated with a non-cardiovascular tissue ischemic condition in a mammalian subject, comprising administering to the subject an effective amount of 2,7,8-trimethyl-2-(β-carboxy-ethyl)-6-hydroxy chroman (gamma-CEHC), and by said administering, reducing tissue damage related to said non-cardiovascular tissue ischemic condition.

Claim 99 (previously presented) The method of claim 41, wherein said gamma-tocopherol enriched tocopherol composition comprises less than 20% alpha-tocopherol.

Claim 100 (previously presented) The method of claim 44, wherein said gamma-tocopherol enriched tocopherol composition comprises less than 20% alpha-tocopherol.

Claim 101 (previously presented) The method of claim 45, wherein said gamma-tocopherol enriched tocopherol composition comprises less than 20% alpha-tocopherol.

Claim 102 (previously presented) The method of claim 46, wherein said gamma-tocopherol enriched tocopherol composition comprises less than 20% alpha-tocopherol.

Claim 103 (previously presented) The method of claim 47, wherein said gamma-tocopherol enriched tocopherol composition comprises less than 20% alpha-tocopherol.

Claim 104 (previously presented) The method of claim 48, wherein said gamma-tocopherol enriched tocopherol composition comprises less than 20% alpha-tocopherol.

Claim 105 (previously presented) A method for reducing cell or tissue death associated with a non-cardiovascular tissue ischemic condition in a mammalian subject, comprising administering to the subject an effective amount of a gamma-tocopherol enriched tocopherol composition comprising at least 50% gamma-tocopherol and less than 20% alpha-tocopherol, and by said administering, reducing tissue damage related to said non-cardiovascular tissue ischemic condition.

Claim 106 (previously presented) The method of claim 105, wherein the gamma-tocopherol enriched tocopherol composition comprises at least 60% gamma-tocopherol and less than 10% alpha-tocopherol.

EVIDENCE APPENDIX

No additional evidence is being submitted with this appeal.

RELATED PROCEEDINGS APPENDIX

No decisions have been rendered by a court or by the Board in the related proceeding mentioned herewith.